**STAFF NOTE**

**Action/Discussion Item:**

Implementation of Kentucky Technology Standards for Students

**Applicable Statute or Regulation:**

KRS 156.160(1), KRS 156.160(3), KRS 156.166, KRS 156.166(7), KRS 156.670, KRS 156.670(1), KRS 156.670(3), KRS 156.670(4), KRS 156.670(7), KRS 157.330, KRS 157.360(1), KRS 157.650, KRS 157.660(1), KRS 157.660(2), KRS 157.655(3), KRS 157.665(1), KRS 157.665(2), 701 KAR 5:110

**Action Question:**

Should the Kentucky Board of Education accept the National Educational Technology Standards (NETS) for Students published by the International Society for Technology in Education as a foundation to provide instructional and curriculum guidance to schools and districts?

**History/Background:**

*Existing Policy.* Implementation of Kentucky's Master Plan for Education Technology began in 1992 after formal adoption by the Kentucky Board of Education. As part of education reform, the General Assembly provided legislative authority and funding for substantial investment in the area of education technology.

*KETS Phase I*

The 1998-2000 Master Plan Update for Education Technology set forth strategic priorities to assist schools and districts in finishing their Kentucky Education Technology System (KETS) Phase I technology implementation by June 2000. The 1998-2000 Master Plan Update described how technology would be used to improve teaching and learning for every Kentucky child as a component of a much broader systemic education reform: (1) to ensure equal access to technology for all students, teachers, and administrators; (2) to enable students to use technology to become independent life-long learners; (3) to empower teachers to use technology as a tool; (4) to develop a network for voice, video, Internet and data that will connect all computers in every classroom, school, and district to global networks; and (5) to prepare Kentucky's children to work in the Information Age.

*KETS Phase II: Student Technology Literacy Standards*

The KBE approved the FY2001-FY2006 Master Plan in June 2000. One aspect of Phase II of the Master Plan includes the following three priorities related to student technology skills:

1) To develop the student technology skills required to support learning in all parts of the curriculum;
2) To better integrate technology into comprehensive school planning and instruction;
3) To prepare our students for the information age and, in parallel work with economic development representatives, to ensure our economy is prepared to take advantage of our graduates so that we do not lose them to other states.

Over the past three years the Kentucky Department of Education focused its efforts on working with various stakeholders including teachers, administrators, representatives of higher education, and business leaders on how to ensure that the technology literacy standards are infused into classroom practice. Various routes were explored such as: (1) possible inclusion of technology skills in the Program of Studies for Kentucky Schools, (2) assessing student technology skills through the state assessment system, and (3) infusing the standards into classroom practice through content-based units of study.

**Policy Issue(s) and Options:**

The Kentucky Department of Education is committed to all students being prepared to enter the workforce or postsecondary education with the skills necessary to succeed. We support the component titled "Enhancing Education through Technology" of the *No Child Left Behind Act (NCLB)* that states students will be technology literate by the eighth grade. One way to ensure that Kentucky's students have the skills and abilities to be successful in this rapidly changing technological world is to set clear technology literacy standards that describe precisely what today's students should learn and be able to do to be competent in this technological world.

Kentucky Board of Education options include:
- Accepting the National Educational Technology Standards (NETS) for Students published by the International Society for Technology in Education standards as Kentucky's educational technology standards.
- Recommending that the Kentucky Department of Education develop its own Education Technology Standards based on NETS for Students.

**Staff Recommendation(s) and Rationale(s):**

After examining the quality of research and expert input behind the NETS document, Department staff recommends endorsing the National Educational Technology Standards (NETS) published by the International Society for Technology in Education as the foundation of its Educational Technology Standards. The standards are organized into six categories: basic operations and concepts; social, ethical, and human issues; technology productivity tools; technology communication tools; technology research tools; and technology problem solving and decision making tools. These categories were chosen because they represent process-based standards that can

be applied to the use of any technological tool, whether the tool is a pencil or a computer or technology yet to evolve. By approaching Educational Technology via these six categories students will be able to efficiently, responsibly, and appropriately use technology to access, process, manage, and communicate information locally as well as globally. See the attachment for the standards.

## Impact on Getting to Proficiency:

Technology is making a significant, positive impact on education:

- Educational technology has demonstrated a significant positive effect on achievement. Positive effects have been found for all major subject areas, in preschool through higher education, and for both regular education and special needs students. Evidence suggests that interactive video is especially effective when the skills and concepts to be learned have a visual component and when the software incorporates a research-based instructional design. Use of online telecommunications for collaboration across classrooms in different geographic locations has also been shown to improve academic skills.
- Education technology has been found to have positive effects on student attitudes toward learning and on student self-concept. Students felt more successful in school, were more motivated to learn and have increased self-confidence and self-esteem when using computer-based instruction. This was particularly true when the technology allowed learners to control their own learning.
- Introducing technology into the learning environment has been shown to make learning more student-centered, to encourage cooperative learning which leads to higher self-esteem and student achievement, and to stimulate increased teacher/student interaction.
- Positive changes in the learning environment brought about by technology are more evolutionary than revolutionary. These changes occur over a period of years, as teachers become more experienced with technology.
- Courses for which computer-based networks were used increased student-student and student-teacher interaction, increased student-teacher interaction with lower-performing students, and did not decrease the traditional forms of communication used. Many students who seldom participate in face-to-face class discussion become more active participants online.
- Greater student cooperation and sharing and helping behaviors occurred when students used computer-based learning that had students compete against the computer rather than against each other.

## Groups Consulted and Brief Summary of Responses:

Kentucky Community College and Technical Schools, the Chamber of Commerce, and Partners for Kentucky Schools have endorsed the standards. Additionally, the Kentucky Department of Education met with over 300 hundred teachers across the Commonwealth on how to ensure that the technology literacy standards are infused into classroom practice. Many of our school districts have endorsed the ISTE NETS for Students as a guide for technology curriculum.

**Contact Person:**

David Couch, Associate Commissioner          Starr Lewis, Associate Commissioner
Office of Education Technology               Office of Academic & Professional Development
dcouch@kde.state.ky.us                       slewis@kde.state.ky.us
(502) 564-2020 ext. 229                      (502) 564-2106


_____          _____
Deputy Commissioner                          Commissioner of Education

**Date:**

December 2003